

Appln. No. 09/744,681
Amd. dated March 1, 2004
Reply to Office Action of September 5, 2003

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-83 (Cancelled).

84. (New) A method of treating potatoes during storage, comprising

contacting said potatoes with a hydrogen peroxide solution, and inhibiting sprouting of said potatoes, the improvement wherein:

said hydrogen peroxide solution is at a maximum pH of 6; contains metallic ions of at least one of silver, copper and zinc, said metallic ions being present in an amount of 10 ppb to 20,000 ppm; and contains at least one of peracetic, nitric, sulfuric and phosphoric acid;

said solution is applied in the form of a dry fog, fumes or smoke, wherein said solution comprises microdroplets having a particle size of 0.001 to 100 microns,

said potatoes are maintained at a high relative humidity during storage, and

sprouting of said potatoes is inhibited.

85. (New) The method of claim 84 wherein said pH is no greater than 4.

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said hydrogen peroxide solution is at a maximum pH of 6; contains metallic ions of at least one of silver, copper and zinc, said metallic ions being present in an amount of 10 ppb to 20,000 ppm; and contains at least one of peracetic, nitric, sulfuric and phosphoric acid;

said solution is applied in the form of a dry fog, fumes or smoke, wherein said solution comprises microdroplets having a particle size of 0.001 to 100 microns,

said potatoes are maintained at a high relative humidity during storage, and sprouting of said potatoes is inhibited.

~~85. (New) The method of claim 84 wherein said pH is no greater than 4.~~

86. (New) The method of claim 85 wherein said metallic ions comprises silver ion in an amount of 50 ppb to 10,000 ppm.

87. (New) the method of claim 86 wherein said acid comprises phosphoric acid.

88. (New) The method of claim 87 wherein said microdroplets have a maximum particle size of 10 microns.

89. (New) The method of claim 88 wherein said treating comprises fogging, and said fogging comprises an air to liquid volume ratio of between 300:1 and 1200:1.

90. (New) The method of claim 89 wherein said fogging comprises an air to liquid volume ratio of between 500:1 and 700:1.

91. (New) The method of claim 84 wherein the concentration of hydrogen peroxide in said hydrogen peroxide solution is 0.1-15%.

92. (New) The method of claim 86 wherein said microdroplets have a maximum particle size of 30 microns.

93. (New) The method of claim 84 wherein said potatoes are stored for at least five months, and said treatment is repeated intermittently during said storage, intervals between said treatments being approximately 3 or 4 weeks.

94. (new) The method of claim 93 wherein said potatoes are maintained at a temperature of at least 10°C during storage.

95. (New) The method of claim 84 wherein said potatoes are stored for at least three months, and said treatment is repeated intermittently during said storage, intervals between said treatments being approximately three or four weeks.

96. (new) The method of claim 95 wherein said potatoes are maintained at a temperature of at least 10°C during storage.

97. (new) The method of claim 84, wherein said potatoes are stored for at least three months, and said treatment is repeated intermittently 10-50% of the time during said storage.

98. (new) The method of claim 84, wherein said potatoes are stored for at least five months, and said treatment is repeated intermittently 10-50% of the time during said storage.

99. (new) The method of claim 84, wherein said potatoes are stored for at least five months, and said treatment is carried out substantially continuously during said storage.

100. (new) The method of claim 99 wherein said potatoes are maintained at a temperature of at least 10°C during storage.

101. (new) The method of claim 84, wherein said treatment further comprises inhibiting rooting of said potatoes.

102. (new) The method of claim 84, wherein said potatoes are seed potatoes, and said treatment comprises breaking epical dominance in said seed potatoes.